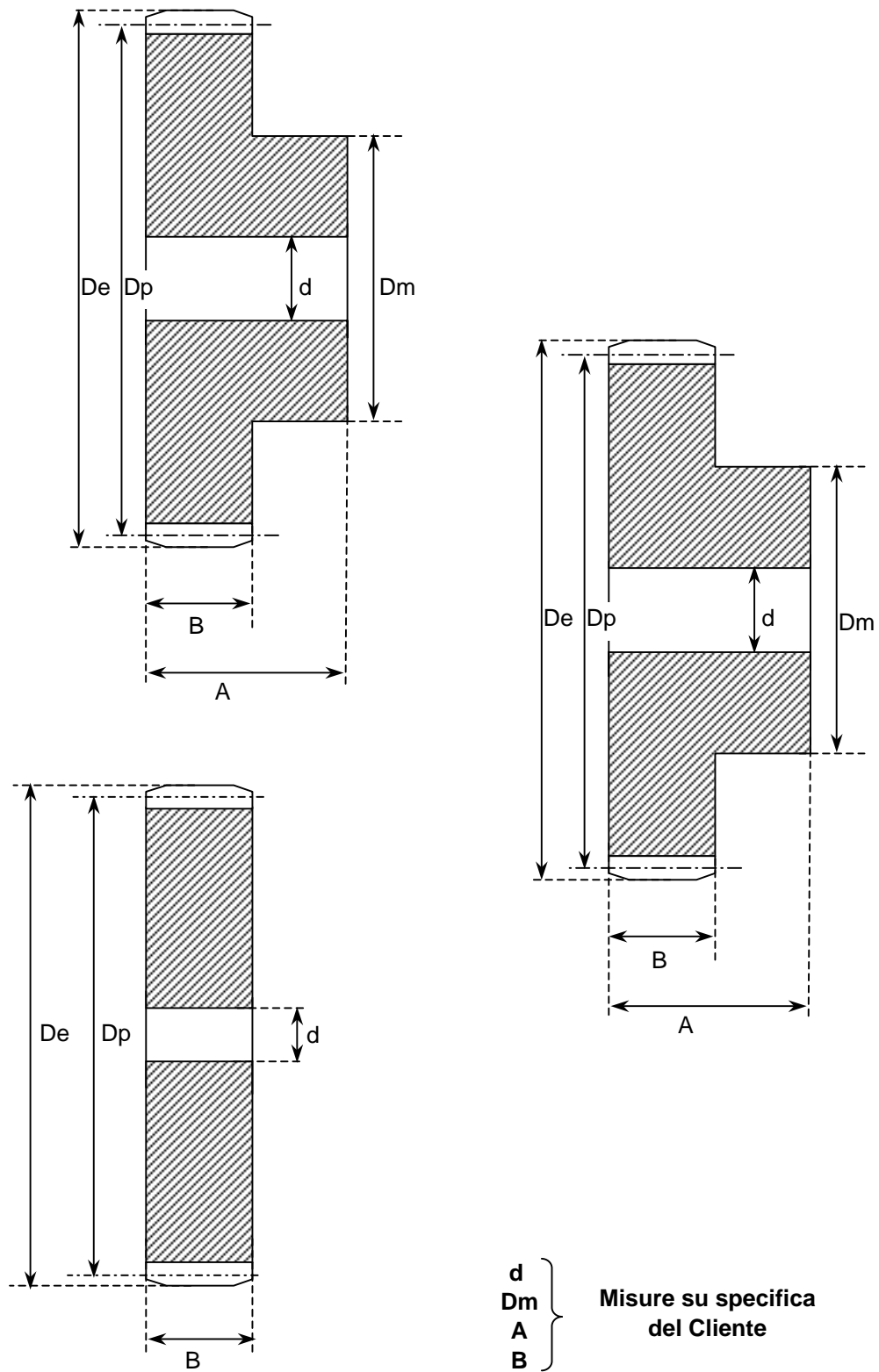


Ingranaggi cilindrici a denti dritti (angolo di pressione 20°) Disegni Tecnici



INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 1
Z12-Z 61

Numero di denti	Modulo 0,5		Modulo 0,75		Modulo 1		Modulo 1,5	
	De	Dp	De	Dp	De	Dp	De	Dp
12	7.0	6.0	10.5	9.00	14.0	12.0	21.0	18.0
13	7.5	6.5	11.3	9.75	15.0	13.0	22.5	19.5
14	8.0	7.0	12.0	10.50	16.0	14.0	24.0	21.0
15	8.5	7.5	12.8	11.25	17.0	15.0	25.5	22.5
16	9.0	8.0	13.5	12.00	18.0	16.0	27.0	24.0
17	9.5	8.5	14.3	12.75	19.0	17.0	28.5	25.5
18	10.0	9.0	15.0	13.50	20.0	18.0	30.0	27.0
19	10.5	9.5	15.8	14.25	21.0	19.0	31.5	28.5
20	11.0	10.0	16.5	15.00	22.0	20.0	33.0	30.0
21	11.5	10.5	17.3	15.75	23.0	21.0	34.5	31.5
22	12.0	11.0	18.0	16.50	24.0	22.0	36.0	33.0
23	12.5	11.5	18.8	17.25	25.0	23.0	37.5	34.5
24	13.0	12.0	19.5	18.00	26.0	24.0	39.0	36.0
25	13.5	12.5	20.3	18.75	27.0	25.0	40.5	37.5
26	14.0	13.0	21.0	19.50	28.0	26.0	42.0	39.0
27	14.5	13.5	21.8	20.25	29.0	27.0	43.5	40.5
28	15.0	14.0	22.5	21.00	30.0	28.0	45.0	42.0
29	15.5	14.5	23.3	21.75	31.0	29.0	46.5	43.5
30	16.0	15.0	24.0	22.50	32.0	30.0	48.0	45.0
31	16.5	15.5	24.8	23.25	33.0	31.0	49.5	46.5
32	17.0	16.0	25.5	24.00	34.0	32.0	51.0	48.0
33	17.5	16.5	26.3	24.75	35.0	33.0	52.5	49.5
34	18.0	17.0	27.0	25.50	36.0	34.0	54.0	51.0
35	18.5	17.5	27.8	26.25	37.0	35.0	55.5	52.5
36	19.0	18.0	28.5	27.00	38.0	36.0	57.0	54.0
37	19.5	18.5	29.3	27.75	39.0	37.0	58.5	55.5
38	20.0	19.0	30.0	28.50	40.0	38.0	60.0	57.0
39	20.5	19.5	30.8	29.25	41.0	39.0	61.5	58.5
40	21.0	20.0	31.5	30.00	42.0	40.0	63.0	60.0
41	21.5	20.5	32.3	30.75	43.0	41.0	64.5	61.5
42	22.0	21.0	33.0	31.50	44.0	42.0	66.0	63.0
43	22.5	21.5	33.8	32.25	45.0	43.0	67.5	64.5
44	23.0	22.0	34.5	33.00	46.0	44.0	69.0	66.0
45	23.5	22.5	35.3	33.75	47.0	45.0	70.5	67.5
46	24.0	23.0	36.0	34.50	48.0	46.0	72.0	69.0
47	24.5	23.5	36.8	35.25	49.0	47.0	73.5	70.5
48	25.0	24.0	37.5	36.00	50.0	48.0	75.0	72.0
49	25.5	24.5	38.3	36.75	51.0	49.0	76.5	73.5
50	26.0	25.0	39.0	37.50	52.0	50.0	78.0	75.0
51	26.5	25.5	39.8	38.25	53.0	51.0	79.5	76.5
52	27.0	26.0	40.5	39.00	54.0	52.0	81.0	78.0
53	27.5	26.5	41.3	39.75	55.0	53.0	82.5	79.5
54	28.0	27.0	42.0	40.50	56.0	54.0	84.0	81.0
55	28.5	27.5	42.8	41.25	57.0	55.0	85.5	82.5
56	29.0	28.0	43.5	42.00	58.0	56.0	87.0	84.0
57	29.5	28.5	44.3	42.75	59.0	57.0	88.5	85.5
58	30.0	29.0	45.0	43.50	60.0	58.0	90.0	87.0
59	30.5	29.5	45.8	44.25	61.0	59.0	91.5	88.5
60	31.0	30.0	46.5	45.00	62.0	60.0	93.0	90.0
61	31.5	30.5	47.3	45.75	63.0	61.0	94.5	91.5

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 2
Z12-Z 61

Numero di denti	Modulo 2		Modulo 2,5		Modulo 3		Modulo 3,5	
	De	Dp	De	Dp	De	Dp	De	Dp
12	28.0	24.0	35.0	30.0	42.0	36.0	49.0	42.0
13	30.0	26.0	37.5	32.5	45.0	39.0	52.5	45.5
14	32.0	28.0	40.0	35.0	48.0	42.0	56.0	49.0
15	34.0	30.0	42.5	37.5	51.0	45.0	59.5	52.5
16	36.0	32.0	45.0	40.0	54.0	48.0	63.0	56.0
17	38.0	34.0	47.5	42.5	57.0	51.0	66.5	59.5
18	40.0	36.0	50.0	45.0	60.0	54.0	70.0	63.0
19	42.0	38.0	52.5	47.5	63.0	57.0	73.5	66.5
20	44.0	40.0	55.0	50.0	66.0	60.0	77.0	70.0
21	46.0	42.0	57.5	52.5	69.0	63.0	80.5	73.5
22	48.0	44.0	60.0	55.0	72.0	66.0	84.0	77.0
23	50.0	46.0	62.5	57.5	75.0	69.0	87.5	80.5
24	52.0	48.0	65.0	60.0	78.0	72.0	91.0	84.0
25	54.0	50.0	67.5	62.5	81.0	75.0	94.5	87.5
26	56.0	52.0	70.0	65.0	84.0	78.0	98.0	91.0
27	58.0	54.0	72.5	67.5	87.0	81.0	101.5	94.5
28	60.0	56.0	75.0	70.0	90.0	84.0	105.0	98.0
29	62.0	58.0	77.5	72.5	93.0	87.0	108.5	101.5
30	64.0	60.0	80.0	75.0	96.0	90.0	112.0	105.0
31	66.0	62.0	82.5	77.5	99.0	93.0	115.5	108.5
32	68.0	64.0	85.0	80.0	102.0	96.0	119.0	112.0
33	70.0	66.0	87.5	82.5	105.0	99.0	122.5	115.5
34	72.0	68.0	90.0	85.0	108.0	102.0	126.0	119.0
35	74.0	70.0	92.5	87.5	111.0	105.0	129.5	122.5
36	76.0	72.0	95.0	90.0	114.0	108.0	133.0	126.0
37	78.0	74.0	97.5	92.5	117.0	111.0	136.5	129.5
38	80.0	76.0	100.0	95.0	120.0	114.0	140.0	133.0
39	82.0	78.0	102.5	97.5	123.0	117.0	143.5	136.5
40	84.0	80.0	105.0	100.0	126.0	120.0	147.0	140.0
41	86.0	82.0	107.5	102.5	129.0	123.0	150.5	143.5
42	88.0	84.0	110.0	105.0	132.0	126.0	154.0	147.0
43	90.0	86.0	112.5	107.5	135.0	129.0	157.5	150.5
44	92.0	88.0	115.0	110.0	138.0	132.0	161.0	154.0
45	94.0	90.0	117.5	112.5	141.0	135.0	164.5	157.5
46	96.0	92.0	120.0	115.0	144.0	138.0	168.0	161.0
47	98.0	94.0	122.5	117.5	147.0	141.0	171.5	164.5
48	100.0	96.0	125.0	120.0	150.0	144.0	175.0	168.0
49	102.0	98.0	127.5	122.5	153.0	147.0	178.5	171.5
50	104.0	100.0	130.0	125.0	156.0	150.0	182.0	175.0
51	106.0	102.0	132.5	127.5	159.0	153.0	185.5	178.5
52	108.0	104.0	135.0	130.0	162.0	156.0	189.0	182.0
53	110.0	106.0	137.5	132.5	165.0	159.0	192.5	185.5
54	112.0	108.0	140.0	135.0	168.0	162.0	196.0	189.0
55	114.0	110.0	142.5	137.5	171.0	165.0	199.5	192.5
56	116.0	112.0	145.0	140.0	174.0	168.0	203.0	196.0
57	118.0	114.0	147.5	142.5	177.0	171.0	206.5	199.5
58	120.0	116.0	150.0	145.0	180.0	174.0	210.0	203.0
59	122.0	118.0	152.5	147.5	183.0	177.0	213.5	206.5
60	124.0	120.0	155.0	150.0	186.0	180.0	217.0	210.0
61	126.0	122.0	157.5	152.5	189.0	183.0	220.5	213.5

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 3
Z12-Z 61

Numero di denti	Modulo 4		Modulo 5		Modulo 6		Modulo 7	
	De	Dp	De	Dp	De	Dp	De	Dp
12	56.0	48.0	70.0	60.0	84.0	72.0	98.0	84.0
13	60.0	52.0	75.0	65.0	90.0	78.0	105.0	91.0
14	64.0	56.0	80.0	70.0	96.0	84.0	112.0	98.0
15	68.0	60.0	85.0	75.0	102.0	90.0	119.0	105.0
16	72.0	64.0	90.0	80.0	108.0	96.0	126.0	112.0
17	76.0	68.0	95.0	85.0	114.0	102.0	133.0	119.0
18	80.0	72.0	100.0	90.0	120.0	108.0	140.0	126.0
19	84.0	76.0	105.0	95.0	126.0	114.0	147.0	133.0
20	88.0	80.0	110.0	100.0	132.0	120.0	154.0	140.0
21	92.0	84.0	115.0	105.0	138.0	126.0	161.0	147.0
22	96.0	88.0	120.0	110.0	144.0	132.0	168.0	154.0
23	100.0	92.0	125.0	115.0	150.0	138.0	175.0	161.0
24	104.0	96.0	130.0	120.0	156.0	144.0	182.0	168.0
25	108.0	100.0	135.0	125.0	162.0	150.0	189.0	175.0
26	112.0	104.0	140.0	130.0	168.0	156.0	196.0	182.0
27	116.0	108.0	145.0	135.0	174.0	162.0	203.0	189.0
28	120.0	112.0	150.0	140.0	180.0	168.0	210.0	196.0
29	124.0	116.0	155.0	145.0	186.0	174.0	217.0	203.0
30	128.0	120.0	160.0	150.0	192.0	180.0	224.0	210.0
31	132.0	124.0	165.0	155.0	198.0	186.0	231.0	217.0
32	136.0	128.0	170.0	160.0	204.0	192.0	238.0	224.0
33	140.0	132.0	175.0	165.0	210.0	198.0	245.0	231.0
34	144.0	136.0	180.0	170.0	216.0	204.0	252.0	238.0
35	148.0	140.0	185.0	175.0	222.0	210.0	259.0	245.0
36	152.0	144.0	190.0	180.0	228.0	216.0	266.0	252.0
37	156.0	148.0	195.0	185.0	234.0	222.0	273.0	259.0
38	160.0	152.0	200.0	190.0	240.0	228.0	280.0	266.0
39	164.0	156.0	205.0	195.0	246.0	234.0	287.0	273.0
40	168.0	160.0	210.0	200.0	252.0	240.0	294.0	280.0
41	172.0	164.0	215.0	205.0	258.0	246.0	301.0	287.0
42	176.0	168.0	220.0	210.0	264.0	252.0	308.0	294.0
43	180.0	172.0	225.0	215.0	270.0	258.0	315.0	301.0
44	184.0	176.0	230.0	220.0	276.0	264.0	322.0	308.0
45	188.0	180.0	235.0	225.0	282.0	270.0	329.0	315.0
46	192.0	184.0	240.0	230.0	288.0	276.0	336.0	322.0
47	196.0	188.0	245.0	235.0	294.0	282.0	343.0	329.0
48	200.0	192.0	250.0	240.0	300.0	288.0	350.0	336.0
49	204.0	196.0	255.0	245.0	306.0	294.0	357.0	343.0
50	208.0	200.0	260.0	250.0	312.0	300.0	364.0	350.0
51	212.0	204.0	265.0	255.0	318.0	306.0	371.0	357.0
52	216.0	208.0	270.0	260.0	324.0	312.0	378.0	364.0
53	220.0	212.0	275.0	265.0	330.0	318.0	385.0	371.0
54	224.0	216.0	280.0	270.0	336.0	324.0	392.0	378.0
55	228.0	220.0	285.0	275.0	342.0	330.0	399.0	385.0
56	232.0	224.0	290.0	280.0	348.0	336.0	406.0	392.0
57	236.0	228.0	295.0	285.0	354.0	342.0	413.0	399.0
58	240.0	232.0	300.0	290.0	360.0	348.0	420.0	406.0
59	244.0	236.0	305.0	295.0	366.0	354.0	427.0	413.0
60	248.0	240.0	310.0	300.0	372.0	360.0	434.0	420.0
61	252.0	244.0	315.0	305.0	378.0	366.0	441.0	427.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 4
Z12-Z 61

Numero di denti	Modulo 8		Modulo 9		Modulo 10		Modulo 12	
	Z	De	Dp	De	Dp	De	Dp	De
12	112.0	96.0	126.0	108.0	140.0	120.0	168.0	144.0
13	120.0	104.0	135.0	117.0	150.0	130.0	180.0	156.0
14	128.0	112.0	144.0	126.0	160.0	140.0	192.0	168.0
15	136.0	120.0	153.0	135.0	170.0	150.0	204.0	180.0
16	144.0	128.0	162.0	144.0	180.0	160.0	216.0	192.0
17	152.0	136.0	171.0	153.0	190.0	170.0	228.0	204.0
18	160.0	144.0	180.0	162.0	200.0	180.0	240.0	216.0
19	168.0	152.0	189.0	171.0	210.0	190.0	252.0	228.0
20	176.0	160.0	198.0	180.0	220.0	200.0	264.0	240.0
21	184.0	168.0	207.0	189.0	230.0	210.0	276.0	252.0
22	192.0	176.0	216.0	198.0	240.0	220.0	288.0	264.0
23	200.0	184.0	225.0	207.0	250.0	230.0	300.0	276.0
24	208.0	192.0	234.0	216.0	260.0	240.0	312.0	288.0
25	216.0	200.0	243.0	225.0	270.0	250.0	324.0	300.0
26	224.0	208.0	252.0	234.0	280.0	260.0	336.0	312.0
27	232.0	216.0	261.0	243.0	290.0	270.0	348.0	324.0
28	240.0	224.0	270.0	252.0	300.0	280.0	360.0	336.0
29	248.0	232.0	279.0	261.0	310.0	290.0	372.0	348.0
30	256.0	240.0	288.0	270.0	320.0	300.0	384.0	360.0
31	264.0	248.0	297.0	279.0	330.0	310.0	396.0	372.0
32	272.0	256.0	306.0	288.0	340.0	320.0	408.0	384.0
33	280.0	264.0	315.0	297.0	350.0	330.0	420.0	396.0
34	288.0	272.0	324.0	306.0	360.0	340.0	432.0	408.0
35	296.0	280.0	333.0	315.0	370.0	350.0	444.0	420.0
36	304.0	288.0	342.0	324.0	380.0	360.0	456.0	432.0
37	312.0	296.0	351.0	333.0	390.0	370.0	468.0	444.0
38	320.0	304.0	360.0	342.0	400.0	380.0	480.0	456.0
39	328.0	312.0	369.0	351.0	410.0	390.0	492.0	468.0
40	336.0	320.0	378.0	360.0	420.0	400.0	504.0	480.0
41	344.0	328.0	387.0	369.0	430.0	410.0	516.0	492.0
42	352.0	336.0	396.0	378.0	440.0	420.0	528.0	504.0
43	360.0	344.0	405.0	387.0	450.0	430.0	540.0	516.0
44	368.0	352.0	414.0	396.0	460.0	440.0	552.0	528.0
45	376.0	360.0	423.0	405.0	470.0	450.0	564.0	540.0
46	384.0	368.0	432.0	414.0	480.0	460.0	576.0	552.0
47	392.0	376.0	441.0	423.0	490.0	470.0	588.0	564.0
48	400.0	384.0	450.0	432.0	500.0	480.0	600.0	576.0
49	408.0	392.0	459.0	441.0	510.0	490.0	612.0	588.0
50	416.0	400.0	468.0	450.0	520.0	500.0	624.0	600.0
51	424.0	408.0	477.0	459.0	530.0	510.0	636.0	612.0
52	432.0	416.0	486.0	468.0	540.0	520.0	648.0	624.0
53	440.0	424.0	495.0	477.0	550.0	530.0	660.0	636.0
54	448.0	432.0	504.0	486.0	560.0	540.0	672.0	648.0
55	456.0	440.0	513.0	495.0	570.0	550.0	684.0	660.0
56	464.0	448.0	522.0	504.0	580.0	560.0	696.0	672.0
57	472.0	456.0	531.0	513.0	590.0	570.0	708.0	684.0
58	480.0	464.0	540.0	522.0	600.0	580.0	720.0	696.0
59	488.0	472.0	549.0	531.0	610.0	590.0	732.0	708.0
60	496.0	480.0	558.0	540.0	620.0	600.0	744.0	720.0
61	504.0	488.0	567.0	549.0	630.0	610.0	756.0	732.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 5
Z12-Z 61

Numero di denti	Modulo 14		Modulo 15		Modulo 16		Modulo 20	
	Z	De	Dp	De	Dp	De	Dp	De
12	196.0	168.0	210.0	180.0	224.0	192.0	280.0	240.0
13	210.0	182.0	225.0	195.0	240.0	208.0	300.0	260.0
14	224.0	196.0	240.0	210.0	256.0	224.0	320.0	280.0
15	238.0	210.0	255.0	225.0	272.0	240.0	340.0	300.0
16	252.0	224.0	270.0	240.0	288.0	256.0	360.0	320.0
17	266.0	238.0	285.0	255.0	304.0	272.0	380.0	340.0
18	280.0	252.0	300.0	270.0	320.0	288.0	400.0	360.0
19	294.0	266.0	315.0	285.0	336.0	304.0	420.0	380.0
20	308.0	280.0	330.0	300.0	352.0	320.0	440.0	400.0
21	322.0	294.0	345.0	315.0	368.0	336.0	460.0	420.0
22	336.0	308.0	360.0	330.0	384.0	352.0	480.0	440.0
23	350.0	322.0	375.0	345.0	400.0	368.0	500.0	460.0
24	364.0	336.0	390.0	360.0	416.0	384.0	520.0	480.0
25	378.0	350.0	405.0	375.0	432.0	400.0	540.0	500.0
26	392.0	364.0	420.0	390.0	448.0	416.0	560.0	520.0
27	406.0	378.0	435.0	405.0	464.0	432.0	580.0	540.0
28	420.0	392.0	450.0	420.0	480.0	448.0	600.0	560.0
29	434.0	406.0	465.0	435.0	496.0	464.0	620.0	580.0
30	448.0	420.0	480.0	450.0	512.0	480.0	640.0	600.0
31	462.0	434.0	495.0	465.0	528.0	496.0	660.0	620.0
32	476.0	448.0	510.0	480.0	544.0	512.0	680.0	640.0
33	490.0	462.0	525.0	495.0	560.0	528.0	700.0	660.0
34	504.0	476.0	540.0	510.0	576.0	544.0	720.0	680.0
35	518.0	490.0	555.0	525.0	592.0	560.0	740.0	700.0
36	532.0	504.0	570.0	540.0	608.0	576.0	760.0	720.0
37	546.0	518.0	585.0	555.0	624.0	592.0	780.0	740.0
38	560.0	532.0	600.0	570.0	640.0	608.0	800.0	760.0
39	574.0	546.0	615.0	585.0	656.0	624.0	820.0	780.0
40	588.0	560.0	630.0	600.0	672.0	640.0	840.0	800.0
41	602.0	574.0	645.0	615.0	688.0	656.0	860.0	820.0
42	616.0	588.0	660.0	630.0	704.0	672.0	880.0	840.0
43	630.0	602.0	675.0	645.0	720.0	688.0	900.0	860.0
44	644.0	616.0	690.0	660.0	736.0	704.0	920.0	880.0
45	658.0	630.0	705.0	675.0	752.0	720.0	940.0	900.0
46	672.0	644.0	720.0	690.0	768.0	736.0	960.0	920.0
47	686.0	658.0	735.0	705.0	784.0	752.0	980.0	940.0
48	700.0	672.0	750.0	720.0	800.0	768.0	1000.0	960.0
49	714.0	686.0	765.0	735.0	816.0	784.0	1020.0	980.0
50	728.0	700.0	780.0	750.0	832.0	800.0	1040.0	1000.0
51	742.0	714.0	795.0	765.0	848.0	816.0	1060.0	1020.0
52	756.0	728.0	810.0	780.0	864.0	832.0	1080.0	1040.0
53	770.0	742.0	825.0	795.0	880.0	848.0	1100.0	1060.0
54	784.0	756.0	840.0	810.0	896.0	864.0	1120.0	1080.0
55	798.0	770.0	855.0	825.0	912.0	880.0	1140.0	1100.0
56	812.0	784.0	870.0	840.0	928.0	896.0	1160.0	1120.0
57	826.0	798.0	885.0	855.0	944.0	912.0	1180.0	1140.0
58	840.0	812.0	900.0	870.0	960.0	928.0	1200.0	1160.0
59	854.0	826.0	915.0	885.0	976.0	944.0	1220.0	1180.0
60	868.0	840.0	930.0	900.0	992.0	960.0	1240.0	1200.0
61	882.0	854.0	945.0	915.0	1008.0	976.0	1260.0	1220.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 1
Z62-Z111

Numero di denti	Modulo 0,5		Modulo 0,75		Modulo 1		Modulo 1,5	
	Z	De	Dp	De	Dp	De	Dp	De
62	32.0	31.0	48.0	46.50	64.0	62.0	96.0	93.0
63	32.5	31.5	48.8	47.25	65.0	63.0	97.5	94.5
64	33.0	32.0	49.5	48.00	66.0	64.0	99.0	96.0
65	33.5	32.5	50.3	48.75	67.0	65.0	100.5	97.5
66	34.0	33.0	51.0	49.50	68.0	66.0	102.0	99.0
67	34.5	33.5	51.8	50.25	69.0	67.0	103.5	100.5
68	35.0	34.0	52.5	51.00	70.0	68.0	105.0	102.0
69	35.5	34.5	53.3	51.75	71.0	69.0	106.5	103.5
70	36.0	35.0	54.0	52.50	72.0	70.0	108.0	105.0
71	36.5	35.5	54.8	53.25	73.0	71.0	109.5	106.5
72	37.0	36.0	55.5	54.00	74.0	72.0	111.0	108.0
73	37.5	36.5	56.3	54.75	75.0	73.0	112.5	109.5
74	38.0	37.0	57.0	55.50	76.0	74.0	114.0	111.0
75	38.5	37.5	57.8	56.25	77.0	75.0	115.5	112.5
76	39.0	38.0	58.5	57.00	78.0	76.0	117.0	114.0
77	39.5	38.5	59.3	57.75	79.0	77.0	118.5	115.5
78	40.0	39.0	60.0	58.50	80.0	78.0	120.0	117.0
79	40.5	39.5	60.8	59.25	81.0	79.0	121.5	118.5
80	41.0	40.0	61.5	60.00	82.0	80.0	123.0	120.0
81	41.5	40.5	62.3	60.75	83.0	81.0	124.5	121.5
82	42.0	41.0	63.0	61.50	84.0	82.0	126.0	123.0
83	42.5	41.5	63.8	62.25	85.0	83.0	127.5	124.5
84	43.0	42.0	64.5	63.00	86.0	84.0	129.0	126.0
85	43.5	42.5	65.3	63.75	87.0	85.0	130.5	127.5
86	44.0	43.0	66.0	64.50	88.0	86.0	132.0	129.0
87	44.5	43.5	66.8	65.25	89.0	87.0	133.5	130.5
88	45.0	44.0	67.5	66.00	90.0	88.0	135.0	132.0
89	45.5	44.5	68.3	66.75	91.0	89.0	136.5	133.5
90	46.0	45.0	69.0	67.50	92.0	90.0	138.0	135.0
91	46.5	45.5	69.8	68.25	93.0	91.0	139.5	136.5
92	47.0	46.0	70.5	69.00	94.0	92.0	141.0	138.0
93	47.5	46.5	71.3	69.75	95.0	93.0	142.5	139.5
94	48.0	47.0	72.0	70.50	96.0	94.0	144.0	141.0
95	48.5	47.5	72.8	71.25	97.0	95.0	145.5	142.5
96	49.0	48.0	73.5	72.00	98.0	96.0	147.0	144.0
97	49.5	48.5	74.3	72.75	99.0	97.0	148.5	145.5
98	50.0	49.0	75.0	73.50	100.0	98.0	150.0	147.0
99	50.5	49.5	75.8	74.25	101.0	99.0	151.5	148.5
100	51.0	50.0	76.5	75.00	102.0	100.0	153.0	150.0
101	51.5	50.5	77.3	75.75	103.0	101.0	154.5	151.5
102	52.0	51.0	78.0	76.50	104.0	102.0	156.0	153.0
103	52.5	51.5	78.8	77.25	105.0	103.0	157.5	154.5
104	53.0	52.0	79.5	78.00	106.0	104.0	159.0	156.0
105	53.5	52.5	80.3	78.75	107.0	105.0	160.5	157.5
106	54.0	53.0	81.0	79.50	108.0	106.0	162.0	159.0
107	54.5	53.5	81.8	80.25	109.0	107.0	163.5	160.5
108	55.0	54.0	82.5	81.00	110.0	108.0	165.0	162.0
109	55.5	54.5	83.3	81.75	111.0	109.0	166.5	163.5
110	56.0	55.0	84.0	82.50	112.0	110.0	168.0	165.0
111	56.5	55.5	84.8	83.25	113.0	111.0	169.5	166.5

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 2
Z62-Z111

Numero di denti	Modulo 2		Modulo 2,5		Modulo 3		Modulo 3,5	
	De	Dp	De	Dp	De	Dp	De	Dp
62	128.0	124.0	160.0	155.0	192.0	186.0	224.0	217.0
63	130.0	126.0	162.5	157.5	195.0	189.0	227.5	220.5
64	132.0	128.0	165.0	160.0	198.0	192.0	231.0	224.0
65	134.0	130.0	167.5	162.5	201.0	195.0	234.5	227.5
66	136.0	132.0	170.0	165.0	204.0	198.0	238.0	231.0
67	138.0	134.0	172.5	167.5	207.0	201.0	241.5	234.5
68	140.0	136.0	175.0	170.0	210.0	204.0	245.0	238.0
69	142.0	138.0	177.5	172.5	213.0	207.0	248.5	241.5
70	144.0	140.0	180.0	175.0	216.0	210.0	252.0	245.0
71	146.0	142.0	182.5	177.5	219.0	213.0	255.5	248.5
72	148.0	144.0	185.0	180.0	222.0	216.0	259.0	252.0
73	150.0	146.0	187.5	182.5	225.0	219.0	262.5	255.5
74	152.0	148.0	190.0	185.0	228.0	222.0	266.0	259.0
75	154.0	150.0	192.5	187.5	231.0	225.0	269.5	262.5
76	156.0	152.0	195.0	190.0	234.0	228.0	273.0	266.0
77	158.0	154.0	197.5	192.5	237.0	231.0	276.5	269.5
78	160.0	156.0	200.0	195.0	240.0	234.0	280.0	273.0
79	162.0	158.0	202.5	197.5	243.0	237.0	283.5	276.5
80	164.0	160.0	205.0	200.0	246.0	240.0	287.0	280.0
81	166.0	162.0	207.5	202.5	249.0	243.0	290.5	283.5
82	168.0	164.0	210.0	205.0	252.0	246.0	294.0	287.0
83	170.0	166.0	212.5	207.5	255.0	249.0	297.5	290.5
84	172.0	168.0	215.0	210.0	258.0	252.0	301.0	294.0
85	174.0	170.0	217.5	212.5	261.0	255.0	304.5	297.5
86	176.0	172.0	220.0	215.0	264.0	258.0	308.0	301.0
87	178.0	174.0	222.5	217.5	267.0	261.0	311.5	304.5
88	180.0	176.0	225.0	220.0	270.0	264.0	315.0	308.0
89	182.0	178.0	227.5	222.5	273.0	267.0	318.5	311.5
90	184.0	180.0	230.0	225.0	276.0	270.0	322.0	315.0
91	186.0	182.0	232.5	227.5	279.0	273.0	325.5	318.5
92	188.0	184.0	235.0	230.0	282.0	276.0	329.0	322.0
93	190.0	186.0	237.5	232.5	285.0	279.0	332.5	325.5
94	192.0	188.0	240.0	235.0	288.0	282.0	336.0	329.0
95	194.0	190.0	242.5	237.5	291.0	285.0	339.5	332.5
96	196.0	192.0	245.0	240.0	294.0	288.0	343.0	336.0
97	198.0	194.0	247.5	242.5	297.0	291.0	346.5	339.5
98	200.0	196.0	250.0	245.0	300.0	294.0	350.0	343.0
99	202.0	198.0	252.5	247.5	303.0	297.0	353.5	346.5
100	204.0	200.0	255.0	250.0	306.0	300.0	357.0	350.0
101	206.0	202.0	257.5	252.5	309.0	303.0	360.5	353.5
102	208.0	204.0	260.0	255.0	312.0	306.0	364.0	357.0
103	210.0	206.0	262.5	257.5	315.0	309.0	367.5	360.5
104	212.0	208.0	265.0	260.0	318.0	312.0	371.0	364.0
105	214.0	210.0	267.5	262.5	321.0	315.0	374.5	367.5
106	216.0	212.0	270.0	265.0	324.0	318.0	378.0	371.0
107	218.0	214.0	272.5	267.5	327.0	321.0	381.5	374.5
108	220.0	216.0	275.0	270.0	330.0	324.0	385.0	378.0
109	222.0	218.0	277.5	272.5	333.0	327.0	388.5	381.5
110	224.0	220.0	280.0	275.0	336.0	330.0	392.0	385.0
111	226.0	222.0	282.5	277.5	339.0	333.0	395.5	388.5

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 3
Z62-Z111

Numero di denti	Modulo 4		Modulo 5		Modulo 6		Modulo 7	
	De	Dp	De	Dp	De	Dp	De	Dp
62	256.0	248.0	320.0	310.0	384.0	372.0	448.0	434.0
63	260.0	252.0	325.0	315.0	390.0	378.0	455.0	441.0
64	264.0	256.0	330.0	320.0	396.0	384.0	462.0	448.0
65	268.0	260.0	335.0	325.0	402.0	390.0	469.0	455.0
66	272.0	264.0	340.0	330.0	408.0	396.0	476.0	462.0
67	276.0	268.0	345.0	335.0	414.0	402.0	483.0	469.0
68	280.0	272.0	350.0	340.0	420.0	408.0	490.0	476.0
69	284.0	276.0	355.0	345.0	426.0	414.0	497.0	483.0
70	288.0	280.0	360.0	350.0	432.0	420.0	504.0	490.0
71	292.0	284.0	365.0	355.0	438.0	426.0	511.0	497.0
72	296.0	288.0	370.0	360.0	444.0	432.0	518.0	504.0
73	300.0	292.0	375.0	365.0	450.0	438.0	525.0	511.0
74	304.0	296.0	380.0	370.0	456.0	444.0	532.0	518.0
75	308.0	300.0	385.0	375.0	462.0	450.0	539.0	525.0
76	312.0	304.0	390.0	380.0	468.0	456.0	546.0	532.0
77	316.0	308.0	395.0	385.0	474.0	462.0	553.0	539.0
78	320.0	312.0	400.0	390.0	480.0	468.0	560.0	546.0
79	324.0	316.0	405.0	395.0	486.0	474.0	567.0	553.0
80	328.0	320.0	410.0	400.0	492.0	480.0	574.0	560.0
81	332.0	324.0	415.0	405.0	498.0	486.0	581.0	567.0
82	336.0	328.0	420.0	410.0	504.0	492.0	588.0	574.0
83	340.0	332.0	425.0	415.0	510.0	498.0	595.0	581.0
84	344.0	336.0	430.0	420.0	516.0	504.0	602.0	588.0
85	348.0	340.0	435.0	425.0	522.0	510.0	609.0	595.0
86	352.0	344.0	440.0	430.0	528.0	516.0	616.0	602.0
87	356.0	348.0	445.0	435.0	534.0	522.0	623.0	609.0
88	360.0	352.0	450.0	440.0	540.0	528.0	630.0	616.0
89	364.0	356.0	455.0	445.0	546.0	534.0	637.0	623.0
90	368.0	360.0	460.0	450.0	552.0	540.0	644.0	630.0
91	372.0	364.0	465.0	455.0	558.0	546.0	651.0	637.0
92	376.0	368.0	470.0	460.0	564.0	552.0	658.0	644.0
93	380.0	372.0	475.0	465.0	570.0	558.0	665.0	651.0
94	384.0	376.0	480.0	470.0	576.0	564.0	672.0	658.0
95	388.0	380.0	485.0	475.0	582.0	570.0	679.0	665.0
96	392.0	384.0	490.0	480.0	588.0	576.0	686.0	672.0
97	396.0	388.0	495.0	485.0	594.0	582.0	693.0	679.0
98	400.0	392.0	500.0	490.0	600.0	588.0	700.0	686.0
99	404.0	396.0	505.0	495.0	606.0	594.0	707.0	693.0
100	408.0	400.0	510.0	500.0	612.0	600.0	714.0	700.0
101	412.0	404.0	515.0	505.0	618.0	606.0	721.0	707.0
102	416.0	408.0	520.0	510.0	624.0	612.0	728.0	714.0
103	420.0	412.0	525.0	515.0	630.0	618.0	735.0	721.0
104	424.0	416.0	530.0	520.0	636.0	624.0	742.0	728.0
105	428.0	420.0	535.0	525.0	642.0	630.0	749.0	735.0
106	432.0	424.0	540.0	530.0	648.0	636.0	756.0	742.0
107	436.0	428.0	545.0	535.0	654.0	642.0	763.0	749.0
108	440.0	432.0	550.0	540.0	660.0	648.0	770.0	756.0
109	444.0	436.0	555.0	545.0	666.0	654.0	777.0	763.0
110	448.0	440.0	560.0	550.0	672.0	660.0	784.0	770.0
111	452.0	444.0	565.0	555.0	678.0	666.0	791.0	777.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 4
Z62-Z111

Numero di denti	Modulo 8		Modulo 9		Modulo 10		Modulo 12	
	De	Dp	De	Dp	De	Dp	De	Dp
62	512.0	496.0	576.0	558.0	640.0	620.0	768.0	744.0
63	520.0	504.0	585.0	567.0	650.0	630.0	780.0	756.0
64	528.0	512.0	594.0	576.0	660.0	640.0	792.0	768.0
65	536.0	520.0	603.0	585.0	670.0	650.0	804.0	780.0
66	544.0	528.0	612.0	594.0	680.0	660.0	816.0	792.0
67	552.0	536.0	621.0	603.0	690.0	670.0	828.0	804.0
68	560.0	544.0	630.0	612.0	700.0	680.0	840.0	816.0
69	568.0	552.0	639.0	621.0	710.0	690.0	852.0	828.0
70	576.0	560.0	648.0	630.0	720.0	700.0	864.0	840.0
71	584.0	568.0	657.0	639.0	730.0	710.0	876.0	852.0
72	592.0	576.0	666.0	648.0	740.0	720.0	888.0	864.0
73	600.0	584.0	675.0	657.0	750.0	730.0	900.0	876.0
74	608.0	592.0	684.0	666.0	760.0	740.0	912.0	888.0
75	616.0	600.0	693.0	675.0	770.0	750.0	924.0	900.0
76	624.0	608.0	702.0	684.0	780.0	760.0	936.0	912.0
77	632.0	616.0	711.0	693.0	790.0	770.0	948.0	924.0
78	640.0	624.0	720.0	702.0	800.0	780.0	960.0	936.0
79	648.0	632.0	729.0	711.0	810.0	790.0	972.0	948.0
80	656.0	640.0	738.0	720.0	820.0	800.0	984.0	960.0
81	664.0	648.0	747.0	729.0	830.0	810.0	996.0	972.0
82	672.0	656.0	756.0	738.0	840.0	820.0	1008.0	984.0
83	680.0	664.0	765.0	747.0	850.0	830.0	1020.0	996.0
84	688.0	672.0	774.0	756.0	860.0	840.0	1032.0	1008.0
85	696.0	680.0	783.0	765.0	870.0	850.0	1044.0	1020.0
86	704.0	688.0	792.0	774.0	880.0	860.0	1056.0	1032.0
87	712.0	696.0	801.0	783.0	890.0	870.0	1068.0	1044.0
88	720.0	704.0	810.0	792.0	900.0	880.0	1080.0	1056.0
89	728.0	712.0	819.0	801.0	910.0	890.0	1092.0	1068.0
90	736.0	720.0	828.0	810.0	920.0	900.0	1104.0	1080.0
91	744.0	728.0	837.0	819.0	930.0	910.0	1116.0	1092.0
92	752.0	736.0	846.0	828.0	940.0	920.0	1128.0	1104.0
93	760.0	744.0	855.0	837.0	950.0	930.0	1140.0	1116.0
94	768.0	752.0	864.0	846.0	960.0	940.0	1152.0	1128.0
95	776.0	760.0	873.0	855.0	970.0	950.0	1164.0	1140.0
96	784.0	768.0	882.0	864.0	980.0	960.0	1176.0	1152.0
97	792.0	776.0	891.0	873.0	990.0	970.0	1188.0	1164.0
98	800.0	784.0	900.0	882.0	1000.0	980.0	1200.0	1176.0
99	808.0	792.0	909.0	891.0	1010.0	990.0	1212.0	1188.0
100	816.0	800.0	918.0	900.0	1020.0	1000.0	1224.0	1200.0
101	824.0	808.0	927.0	909.0	1030.0	1010.0	1236.0	1212.0
102	832.0	816.0	936.0	918.0	1040.0	1020.0	1248.0	1224.0
103	840.0	824.0	945.0	927.0	1050.0	1030.0	1260.0	1236.0
104	848.0	832.0	954.0	936.0	1060.0	1040.0	1272.0	1248.0
105	856.0	840.0	963.0	945.0	1070.0	1050.0	1284.0	1260.0
106	864.0	848.0	972.0	954.0	1080.0	1060.0	1296.0	1272.0
107	872.0	856.0	981.0	963.0	1090.0	1070.0	1308.0	1284.0
108	880.0	864.0	990.0	972.0	1100.0	1080.0	1320.0	1296.0
109	888.0	872.0	999.0	981.0	1110.0	1090.0	1332.0	1308.0
110	896.0	880.0	1008.0	990.0	1120.0	1100.0	1344.0	1320.0
111	904.0	888.0	1017.0	999.0	1130.0	1110.0	1356.0	1332.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 5
Z62-Z111

Numero di denti	Modulo 14		Modulo 15		Modulo 16		Modulo 20	
	Z	De	Dp	De	Dp	De	Dp	De
62	896.0	868.0	960.0	930.0	1024.0	992.0	1280.0	1240.0
63	910.0	882.0	975.0	945.0	1040.0	1008.0	1300.0	1260.0
64	924.0	896.0	990.0	960.0	1056.0	1024.0	1320.0	1280.0
65	938.0	910.0	1005.0	975.0	1072.0	1040.0	1340.0	1300.0
66	952.0	924.0	1020.0	990.0	1088.0	1056.0	1360.0	1320.0
67	966.0	938.0	1035.0	1005.0	1104.0	1072.0	1380.0	1340.0
68	980.0	952.0	1050.0	1020.0	1120.0	1088.0	1400.0	1360.0
69	994.0	966.0	1065.0	1035.0	1136.0	1104.0	1420.0	1380.0
70	1008.0	980.0	1080.0	1050.0	1152.0	1120.0	1440.0	1400.0
71	1022.0	994.0	1095.0	1065.0	1168.0	1136.0	1460.0	1420.0
72	1036.0	1008.0	1110.0	1080.0	1184.0	1152.0	1480.0	1440.0
73	1050.0	1022.0	1125.0	1095.0	1200.0	1168.0	1500.0	1460.0
74	1064.0	1036.0	1140.0	1110.0	1216.0	1184.0	1520.0	1480.0
75	1078.0	1050.0	1155.0	1125.0	1232.0	1200.0	1540.0	1500.0
76	1092.0	1064.0	1170.0	1140.0	1248.0	1216.0	1560.0	1520.0
77	1106.0	1078.0	1185.0	1155.0	1264.0	1232.0	1580.0	1540.0
78	1120.0	1092.0	1200.0	1170.0	1280.0	1248.0	1600.0	1560.0
79	1134.0	1106.0	1215.0	1185.0	1296.0	1264.0	1620.0	1580.0
80	1148.0	1120.0	1230.0	1200.0	1312.0	1280.0	1640.0	1600.0
81	1162.0	1134.0	1245.0	1215.0	1328.0	1296.0	1660.0	1620.0
82	1176.0	1148.0	1260.0	1230.0	1344.0	1312.0	1680.0	1640.0
83	1190.0	1162.0	1275.0	1245.0	1360.0	1328.0	1700.0	1660.0
84	1204.0	1176.0	1290.0	1260.0	1376.0	1344.0	1720.0	1680.0
85	1218.0	1190.0	1305.0	1275.0	1392.0	1360.0	1740.0	1700.0
86	1232.0	1204.0	1320.0	1290.0	1408.0	1376.0	1760.0	1720.0
87	1246.0	1218.0	1335.0	1305.0	1424.0	1392.0	1780.0	1740.0
88	1260.0	1232.0	1350.0	1320.0	1440.0	1408.0	1800.0	1760.0
89	1274.0	1246.0	1365.0	1335.0	1456.0	1424.0	1820.0	1780.0
90	1288.0	1260.0	1380.0	1350.0	1472.0	1440.0	1840.0	1800.0
91	1302.0	1274.0	1395.0	1365.0	1488.0	1456.0	1860.0	1820.0
92	1316.0	1288.0	1410.0	1380.0	1504.0	1472.0	1880.0	1840.0
93	1330.0	1302.0	1425.0	1395.0	1520.0	1488.0	1900.0	1860.0
94	1344.0	1316.0	1440.0	1410.0	1536.0	1504.0	1920.0	1880.0
95	1358.0	1330.0	1455.0	1425.0	1552.0	1520.0	1940.0	1900.0
96	1372.0	1344.0	1470.0	1440.0	1568.0	1536.0	1960.0	1920.0
97	1386.0	1358.0	1485.0	1455.0	1584.0	1552.0	1980.0	1940.0
98	1400.0	1372.0	1500.0	1470.0	1600.0	1568.0	2000.0	1960.0
99	1414.0	1386.0	1515.0	1485.0	1616.0	1584.0	2020.0	1980.0
100	1428.0	1400.0	1530.0	1500.0	1632.0	1600.0	2040.0	2000.0
101	1442.0	1414.0	1545.0	1515.0	1648.0	1616.0	2060.0	2020.0
102	1456.0	1428.0	1560.0	1530.0	1664.0	1632.0	2080.0	2040.0
103	1470.0	1442.0	1575.0	1545.0	1680.0	1648.0	2100.0	2060.0
104	1484.0	1456.0	1590.0	1560.0	1696.0	1664.0	2120.0	2080.0
105	1498.0	1470.0	1605.0	1575.0	1712.0	1680.0	2140.0	2100.0
106	1512.0	1484.0	1620.0	1590.0	1728.0	1696.0	2160.0	2120.0
107	1526.0	1498.0	1635.0	1605.0	1744.0	1712.0	2180.0	2140.0
108	1540.0	1512.0	1650.0	1620.0	1760.0	1728.0	2200.0	2160.0
109	1554.0	1526.0	1665.0	1635.0	1776.0	1744.0	2220.0	2180.0
110	1568.0	1540.0	1680.0	1650.0	1792.0	1760.0	2240.0	2200.0
111	1582.0	1554.0	1695.0	1665.0	1808.0	1776.0	2260.0	2220.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 1
Z112-Z161

Numero di denti	Modulo 0,5		Modulo 0,75		Modulo 1		Modulo 1,5	
	Z	De	Dp	De	Dp	De	Dp	De
112	57.0	56.0	85.5	84.00	114.0	112.0	171.0	168.0
113	57.5	56.5	86.3	84.75	115.0	113.0	172.5	169.5
114	58.0	57.0	87.0	85.50	116.0	114.0	174.0	171.0
115	58.5	57.5	87.8	86.25	117.0	115.0	175.5	172.5
116	59.0	58.0	88.5	87.00	118.0	116.0	177.0	174.0
117	59.5	58.5	89.3	87.75	119.0	117.0	178.5	175.5
118	60.0	59.0	90.0	88.50	120.0	118.0	180.0	177.0
119	60.5	59.5	90.8	89.25	121.0	119.0	181.5	178.5
120	61.0	60.0	91.5	90.00	122.0	120.0	183.0	180.0
121	61.5	60.5	92.3	90.75	123.0	121.0	184.5	181.5
122	62.0	61.0	93.0	91.50	124.0	122.0	186.0	183.0
123	62.5	61.5	93.8	92.25	125.0	123.0	187.5	184.5
124	63.0	62.0	94.5	93.00	126.0	124.0	189.0	186.0
125	63.5	62.5	95.3	93.75	127.0	125.0	190.5	187.5
126	64.0	63.0	96.0	94.50	128.0	126.0	192.0	189.0
127	64.5	63.5	96.8	95.25	129.0	127.0	193.5	190.5
128	65.0	64.0	97.5	96.00	130.0	128.0	195.0	192.0
129	65.5	64.5	98.3	96.75	131.0	129.0	196.5	193.5
130	66.0	65.0	99.0	97.50	132.0	130.0	198.0	195.0
131	66.5	65.5	99.8	98.25	133.0	131.0	199.5	196.5
132	67.0	66.0	100.5	99.00	134.0	132.0	201.0	198.0
133	67.5	66.5	101.3	99.75	135.0	133.0	202.5	199.5
134	68.0	67.0	102.0	100.50	136.0	134.0	204.0	201.0
135	68.5	67.5	102.8	101.25	137.0	135.0	205.5	202.5
136	69.0	68.0	103.5	102.00	138.0	136.0	207.0	204.0
137	69.5	68.5	104.3	102.75	139.0	137.0	208.5	205.5
138	70.0	69.0	105.0	103.50	140.0	138.0	210.0	207.0
139	70.5	69.5	105.8	104.25	141.0	139.0	211.5	208.5
140	71.0	70.0	106.5	105.00	142.0	140.0	213.0	210.0
141	71.5	70.5	107.3	105.75	143.0	141.0	214.5	211.5
142	72.0	71.0	108.0	106.50	144.0	142.0	216.0	213.0
143	72.5	71.5	108.8	107.25	145.0	143.0	217.5	214.5
144	73.0	72.0	109.5	108.00	146.0	144.0	219.0	216.0
145	73.5	72.5	110.3	108.75	147.0	145.0	220.5	217.5
146	74.0	73.0	111.0	109.50	148.0	146.0	222.0	219.0
147	74.5	73.5	111.8	110.25	149.0	147.0	223.5	220.5
148	75.0	74.0	112.5	111.00	150.0	148.0	225.0	222.0
149	75.5	74.5	113.3	111.75	151.0	149.0	226.5	223.5
150	76.0	75.0	114.0	112.50	152.0	150.0	228.0	225.0
151	76.5	75.5	114.8	113.25	153.0	151.0	229.5	226.5
152	77.0	76.0	115.5	114.00	154.0	152.0	231.0	228.0
153	77.5	76.5	116.3	114.75	155.0	153.0	232.5	229.5
154	78.0	77.0	117.0	115.50	156.0	154.0	234.0	231.0
155	78.5	77.5	117.8	116.25	157.0	155.0	235.5	232.5
156	79.0	78.0	118.5	117.00	158.0	156.0	237.0	234.0
157	79.5	78.5	119.3	117.75	159.0	157.0	238.5	235.5
158	80.0	79.0	120.0	118.50	160.0	158.0	240.0	237.0
159	80.5	79.5	120.8	119.25	161.0	159.0	241.5	238.5
160	81.0	80.0	121.5	120.00	162.0	160.0	243.0	240.0
161	81.5	80.5	122.3	120.75	163.0	161.0	244.5	241.5

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 2
Z112-Z161

Numero di denti	Modulo 2		Modulo 2,5		Modulo 3		Modulo 3,5	
	Z	De	Dp	De	Dp	De	Dp	De
112	228.0	224.0	285.0	280.0	342.0	336.0	399.0	392.0
113	230.0	226.0	287.5	282.5	345.0	339.0	402.5	395.5
114	232.0	228.0	290.0	285.0	348.0	342.0	406.0	399.0
115	234.0	230.0	292.5	287.5	351.0	345.0	409.5	402.5
116	236.0	232.0	295.0	290.0	354.0	348.0	413.0	406.0
117	238.0	234.0	297.5	292.5	357.0	351.0	416.5	409.5
118	240.0	236.0	300.0	295.0	360.0	354.0	420.0	413.0
119	242.0	238.0	302.5	297.5	363.0	357.0	423.5	416.5
120	244.0	240.0	305.0	300.0	366.0	360.0	427.0	420.0
121	246.0	242.0	307.5	302.5	369.0	363.0	430.5	423.5
122	248.0	244.0	310.0	305.0	372.0	366.0	434.0	427.0
123	250.0	246.0	312.5	307.5	375.0	369.0	437.5	430.5
124	252.0	248.0	315.0	310.0	378.0	372.0	441.0	434.0
125	254.0	250.0	317.5	312.5	381.0	375.0	444.5	437.5
126	256.0	252.0	320.0	315.0	384.0	378.0	448.0	441.0
127	258.0	254.0	322.5	317.5	387.0	381.0	451.5	444.5
128	260.0	256.0	325.0	320.0	390.0	384.0	455.0	448.0
129	262.0	258.0	327.5	322.5	393.0	387.0	458.5	451.5
130	264.0	260.0	330.0	325.0	396.0	390.0	462.0	455.0
131	266.0	262.0	332.5	327.5	399.0	393.0	465.5	458.5
132	268.0	264.0	335.0	330.0	402.0	396.0	469.0	462.0
133	270.0	266.0	337.5	332.5	405.0	399.0	472.5	465.5
134	272.0	268.0	340.0	335.0	408.0	402.0	476.0	469.0
135	274.0	270.0	342.5	337.5	411.0	405.0	479.5	472.5
136	276.0	272.0	345.0	340.0	414.0	408.0	483.0	476.0
137	278.0	274.0	347.5	342.5	417.0	411.0	486.5	479.5
138	280.0	276.0	350.0	345.0	420.0	414.0	490.0	483.0
139	282.0	278.0	352.5	347.5	423.0	417.0	493.5	486.5
140	284.0	280.0	355.0	350.0	426.0	420.0	497.0	490.0
141	286.0	282.0	357.5	352.5	429.0	423.0	500.5	493.5
142	288.0	284.0	360.0	355.0	432.0	426.0	504.0	497.0
143	290.0	286.0	362.5	357.5	435.0	429.0	507.5	500.5
144	292.0	288.0	365.0	360.0	438.0	432.0	511.0	504.0
145	294.0	290.0	367.5	362.5	441.0	435.0	514.5	507.5
146	296.0	292.0	370.0	365.0	444.0	438.0	518.0	511.0
147	298.0	294.0	372.5	367.5	447.0	441.0	521.5	514.5
148	300.0	296.0	375.0	370.0	450.0	444.0	525.0	518.0
149	302.0	298.0	377.5	372.5	453.0	447.0	528.5	521.5
150	304.0	300.0	380.0	375.0	456.0	450.0	532.0	525.0
151	306.0	302.0	382.5	377.5	459.0	453.0	535.5	528.5
152	308.0	304.0	385.0	380.0	462.0	456.0	539.0	532.0
153	310.0	306.0	387.5	382.5	465.0	459.0	542.5	535.5
154	312.0	308.0	390.0	385.0	468.0	462.0	546.0	539.0
155	314.0	310.0	392.5	387.5	471.0	465.0	549.5	542.5
156	316.0	312.0	395.0	390.0	474.0	468.0	553.0	546.0
157	318.0	314.0	397.5	392.5	477.0	471.0	556.5	549.5
158	320.0	316.0	400.0	395.0	480.0	474.0	560.0	553.0
159	322.0	318.0	402.5	397.5	483.0	477.0	563.5	556.5
160	324.0	320.0	405.0	400.0	486.0	480.0	567.0	560.0
161	326.0	322.0	407.5	402.5	489.0	483.0	570.5	563.5

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 3
Z112-Z161

Numero di denti	Modulo 4		Modulo 5		Modulo 6		Modulo 7	
	De	Dp	De	Dp	De	Dp	De	Dp
112	456.0	448.0	570.0	560.0	684.0	672.0	798.0	784.0
113	460.0	452.0	575.0	565.0	690.0	678.0	805.0	791.0
114	464.0	456.0	580.0	570.0	696.0	684.0	812.0	798.0
115	468.0	460.0	585.0	575.0	702.0	690.0	819.0	805.0
116	472.0	464.0	590.0	580.0	708.0	696.0	826.0	812.0
117	476.0	468.0	595.0	585.0	714.0	702.0	833.0	819.0
118	480.0	472.0	600.0	590.0	720.0	708.0	840.0	826.0
119	484.0	476.0	605.0	595.0	726.0	714.0	847.0	833.0
120	488.0	480.0	610.0	600.0	732.0	720.0	854.0	840.0
121	492.0	484.0	615.0	605.0	738.0	726.0	861.0	847.0
122	496.0	488.0	620.0	610.0	744.0	732.0	868.0	854.0
123	500.0	492.0	625.0	615.0	750.0	738.0	875.0	861.0
124	504.0	496.0	630.0	620.0	756.0	744.0	882.0	868.0
125	508.0	500.0	635.0	625.0	762.0	750.0	889.0	875.0
126	512.0	504.0	640.0	630.0	768.0	756.0	896.0	882.0
127	516.0	508.0	645.0	635.0	774.0	762.0	903.0	889.0
128	520.0	512.0	650.0	640.0	780.0	768.0	910.0	896.0
129	524.0	516.0	655.0	645.0	786.0	774.0	917.0	903.0
130	528.0	520.0	660.0	650.0	792.0	780.0	924.0	910.0
131	532.0	524.0	665.0	655.0	798.0	786.0	931.0	917.0
132	536.0	528.0	670.0	660.0	804.0	792.0	938.0	924.0
133	540.0	532.0	675.0	665.0	810.0	798.0	945.0	931.0
134	544.0	536.0	680.0	670.0	816.0	804.0	952.0	938.0
135	548.0	540.0	685.0	675.0	822.0	810.0	959.0	945.0
136	552.0	544.0	690.0	680.0	828.0	816.0	966.0	952.0
137	556.0	548.0	695.0	685.0	834.0	822.0	973.0	959.0
138	560.0	552.0	700.0	690.0	840.0	828.0	980.0	966.0
139	564.0	556.0	705.0	695.0	846.0	834.0	987.0	973.0
140	568.0	560.0	710.0	700.0	852.0	840.0	994.0	980.0
141	572.0	564.0	715.0	705.0	858.0	846.0	1001.0	987.0
142	576.0	568.0	720.0	710.0	864.0	852.0	1008.0	994.0
143	580.0	572.0	725.0	715.0	870.0	858.0	1015.0	1001.0
144	584.0	576.0	730.0	720.0	876.0	864.0	1022.0	1008.0
145	588.0	580.0	735.0	725.0	882.0	870.0	1029.0	1015.0
146	592.0	584.0	740.0	730.0	888.0	876.0	1036.0	1022.0
147	596.0	588.0	745.0	735.0	894.0	882.0	1043.0	1029.0
148	600.0	592.0	750.0	740.0	900.0	888.0	1050.0	1036.0
149	604.0	596.0	755.0	745.0	906.0	894.0	1057.0	1043.0
150	608.0	600.0	760.0	750.0	912.0	900.0	1064.0	1050.0
151	612.0	604.0	765.0	755.0	918.0	906.0	1071.0	1057.0
152	616.0	608.0	770.0	760.0	924.0	912.0	1078.0	1064.0
153	620.0	612.0	775.0	765.0	930.0	918.0	1085.0	1071.0
154	624.0	616.0	780.0	770.0	936.0	924.0	1092.0	1078.0
155	628.0	620.0	785.0	775.0	942.0	930.0	1099.0	1085.0
156	632.0	624.0	790.0	780.0	948.0	936.0	1106.0	1092.0
157	636.0	628.0	795.0	785.0	954.0	942.0	1113.0	1099.0
158	640.0	632.0	800.0	790.0	960.0	948.0	1120.0	1106.0
159	644.0	636.0	805.0	795.0	966.0	954.0	1127.0	1113.0
160	648.0	640.0	810.0	800.0	972.0	960.0	1134.0	1120.0
161	652.0	644.0	815.0	805.0	978.0	966.0	1141.0	1127.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 4
Z112-Z161

Numero di denti	Modulo 8		Modulo 9		Modulo 10		Modulo 12	
	De	Dp	De	Dp	De	Dp	De	Dp
112	912.0	896.0	1026.0	1008.0	1140.0	1120.0	1368.0	1344.0
113	920.0	904.0	1035.0	1017.0	1150.0	1130.0	1380.0	1356.0
114	928.0	912.0	1044.0	1026.0	1160.0	1140.0	1392.0	1368.0
115	936.0	920.0	1053.0	1035.0	1170.0	1150.0	1404.0	1380.0
116	944.0	928.0	1062.0	1044.0	1180.0	1160.0	1416.0	1392.0
117	952.0	936.0	1071.0	1053.0	1190.0	1170.0	1428.0	1404.0
118	960.0	944.0	1080.0	1062.0	1200.0	1180.0	1440.0	1416.0
119	968.0	952.0	1089.0	1071.0	1210.0	1190.0	1452.0	1428.0
120	976.0	960.0	1098.0	1080.0	1220.0	1200.0	1464.0	1440.0
121	984.0	968.0	1107.0	1089.0	1230.0	1210.0	1476.0	1452.0
122	992.0	976.0	1116.0	1098.0	1240.0	1220.0	1488.0	1464.0
123	1000.0	984.0	1125.0	1107.0	1250.0	1230.0	1500.0	1476.0
124	1008.0	992.0	1134.0	1116.0	1260.0	1240.0	1512.0	1488.0
125	1016.0	1000.0	1143.0	1125.0	1270.0	1250.0	1524.0	1500.0
126	1024.0	1008.0	1152.0	1134.0	1280.0	1260.0	1536.0	1512.0
127	1032.0	1016.0	1161.0	1143.0	1290.0	1270.0	1548.0	1524.0
128	1040.0	1024.0	1170.0	1152.0	1300.0	1280.0	1560.0	1536.0
129	1048.0	1032.0	1179.0	1161.0	1310.0	1290.0	1572.0	1548.0
130	1056.0	1040.0	1188.0	1170.0	1320.0	1300.0	1584.0	1560.0
131	1064.0	1048.0	1197.0	1179.0	1330.0	1310.0	1596.0	1572.0
132	1072.0	1056.0	1206.0	1188.0	1340.0	1320.0	1608.0	1584.0
133	1080.0	1064.0	1215.0	1197.0	1350.0	1330.0	1620.0	1596.0
134	1088.0	1072.0	1224.0	1206.0	1360.0	1340.0	1632.0	1608.0
135	1096.0	1080.0	1233.0	1215.0	1370.0	1350.0	1644.0	1620.0
136	1104.0	1088.0	1242.0	1224.0	1380.0	1360.0	1656.0	1632.0
137	1112.0	1096.0	1251.0	1233.0	1390.0	1370.0	1668.0	1644.0
138	1120.0	1104.0	1260.0	1242.0	1400.0	1380.0	1680.0	1656.0
139	1128.0	1112.0	1269.0	1251.0	1410.0	1390.0	1692.0	1668.0
140	1136.0	1120.0	1278.0	1260.0	1420.0	1400.0	1704.0	1680.0
141	1144.0	1128.0	1287.0	1269.0	1430.0	1410.0	1716.0	1692.0
142	1152.0	1136.0	1296.0	1278.0	1440.0	1420.0	1728.0	1704.0
143	1160.0	1144.0	1305.0	1287.0	1450.0	1430.0	1740.0	1716.0
144	1168.0	1152.0	1314.0	1296.0	1460.0	1440.0	1752.0	1728.0
145	1176.0	1160.0	1323.0	1305.0	1470.0	1450.0	1764.0	1740.0
146	1184.0	1168.0	1332.0	1314.0	1480.0	1460.0	1776.0	1752.0
147	1192.0	1176.0	1341.0	1323.0	1490.0	1470.0	1788.0	1764.0
148	1200.0	1184.0	1350.0	1332.0	1500.0	1480.0	1800.0	1776.0
149	1208.0	1192.0	1359.0	1341.0	1510.0	1490.0	1812.0	1788.0
150	1216.0	1200.0	1368.0	1350.0	1520.0	1500.0	1824.0	1800.0
151	1224.0	1208.0	1377.0	1359.0	1530.0	1510.0	1836.0	1812.0
152	1232.0	1216.0	1386.0	1368.0	1540.0	1520.0	1848.0	1824.0
153	1240.0	1224.0	1395.0	1377.0	1550.0	1530.0	1860.0	1836.0
154	1248.0	1232.0	1404.0	1386.0	1560.0	1540.0	1872.0	1848.0
155	1256.0	1240.0	1413.0	1395.0	1570.0	1550.0	1884.0	1860.0
156	1264.0	1248.0	1422.0	1404.0	1580.0	1560.0	1896.0	1872.0
157	1272.0	1256.0	1431.0	1413.0	1590.0	1570.0	1908.0	1884.0
158	1280.0	1264.0	1440.0	1422.0	1600.0	1580.0	1920.0	1896.0
159	1288.0	1272.0	1449.0	1431.0	1610.0	1590.0	1932.0	1908.0
160	1296.0	1280.0	1458.0	1440.0	1620.0	1600.0	1944.0	1920.0
161	1304.0	1288.0	1467.0	1449.0	1630.0	1610.0	1956.0	1932.0

INGRANAGGI CILINDRICI A DENTI DIRITTI (angolo di pressione 20°) - Tabella 5
Z112-Z161

Numero di denti	Modulo 14		Modulo 15		Modulo 16		Modulo 20	
	Z	De	Dp	De	Dp	De	Dp	De
112	1596.0	1568.0	1710.0	1680.0	1824.0	1792.0	2280.0	2240.0
113	1610.0	1582.0	1725.0	1695.0	1840.0	1808.0	2300.0	2260.0
114	1624.0	1596.0	1740.0	1710.0	1856.0	1824.0	2320.0	2280.0
115	1638.0	1610.0	1755.0	1725.0	1872.0	1840.0	2340.0	2300.0
116	1652.0	1624.0	1770.0	1740.0	1888.0	1856.0	2360.0	2320.0
117	1666.0	1638.0	1785.0	1755.0	1904.0	1872.0	2380.0	2340.0
118	1680.0	1652.0	1800.0	1770.0	1920.0	1888.0	2400.0	2360.0
119	1694.0	1666.0	1815.0	1785.0	1936.0	1904.0	2420.0	2380.0
120	1708.0	1680.0	1830.0	1800.0	1952.0	1920.0	2440.0	2400.0
121	1722.0	1694.0	1845.0	1815.0	1968.0	1936.0	2460.0	2420.0
122	1736.0	1708.0	1860.0	1830.0	1984.0	1952.0	2480.0	2440.0
123	1750.0	1722.0	1875.0	1845.0	2000.0	1968.0	2500.0	2460.0
124	1764.0	1736.0	1890.0	1860.0	2016.0	1984.0	2520.0	2480.0
125	1778.0	1750.0	1905.0	1875.0	2032.0	2000.0	2540.0	2500.0
126	1792.0	1764.0	1920.0	1890.0	2048.0	2016.0	2560.0	2520.0
127	1806.0	1778.0	1935.0	1905.0	2064.0	2032.0	2580.0	2540.0
128	1820.0	1792.0	1950.0	1920.0	2080.0	2048.0	2600.0	2560.0
129	1834.0	1806.0	1965.0	1935.0	2096.0	2064.0	2620.0	2580.0
130	1848.0	1820.0	1980.0	1950.0	2112.0	2080.0	2640.0	2600.0
131	1862.0	1834.0	1995.0	1965.0	2128.0	2096.0	2660.0	2620.0
132	1876.0	1848.0	2010.0	1980.0	2144.0	2112.0	2680.0	2640.0
133	1890.0	1862.0	2025.0	1995.0	2160.0	2128.0	2700.0	2660.0
134	1904.0	1876.0	2040.0	2010.0	2176.0	2144.0	2720.0	2680.0
135	1918.0	1890.0	2055.0	2025.0	2192.0	2160.0	2740.0	2700.0
136	1932.0	1904.0	2070.0	2040.0	2208.0	2176.0	2760.0	2720.0
137	1946.0	1918.0	2085.0	2055.0	2224.0	2192.0	2780.0	2740.0
138	1960.0	1932.0	2100.0	2070.0	2240.0	2208.0	2800.0	2760.0
139	1974.0	1946.0	2115.0	2085.0	2256.0	2224.0	2820.0	2780.0
140	1988.0	1960.0	2130.0	2100.0	2272.0	2240.0	2840.0	2800.0
141	2002.0	1974.0	2145.0	2115.0	2288.0	2256.0	2860.0	2820.0
142	2016.0	1988.0	2160.0	2130.0	2304.0	2272.0	2880.0	2840.0
143	2030.0	2002.0	2175.0	2145.0	2320.0	2288.0	2900.0	2860.0
144	2044.0	2016.0	2190.0	2160.0	2336.0	2304.0	2920.0	2880.0
145	2058.0	2030.0	2205.0	2175.0	2352.0	2320.0	2940.0	2900.0
146	2072.0	2044.0	2220.0	2190.0	2368.0	2336.0	2960.0	2920.0
147	2086.0	2058.0	2235.0	2205.0	2384.0	2352.0	2980.0	2940.0
148	2100.0	2072.0	2250.0	2220.0	2400.0	2368.0	3000.0	2960.0
149	2114.0	2086.0	2265.0	2235.0	2416.0	2384.0	3020.0	2980.0
150	2128.0	2100.0	2280.0	2250.0	2432.0	2400.0	3040.0	3000.0
151	2142.0	2114.0	2295.0	2265.0	2448.0	2416.0	3060.0	3020.0
152	2156.0	2128.0	2310.0	2280.0	2464.0	2432.0	3080.0	3040.0
153	2170.0	2142.0	2325.0	2295.0	2480.0	2448.0	3100.0	3060.0
154	2184.0	2156.0	2340.0	2310.0	2496.0	2464.0	3120.0	3080.0
155	2198.0	2170.0	2355.0	2325.0	2512.0	2480.0	3140.0	3100.0
156	2212.0	2184.0	2370.0	2340.0	2528.0	2496.0	3160.0	3120.0
157	2226.0	2198.0	2385.0	2355.0	2544.0	2512.0	3180.0	3140.0
158	2240.0	2212.0	2400.0	2370.0	2560.0	2528.0	3200.0	3160.0
159	2254.0	2226.0	2415.0	2385.0	2576.0	2544.0	3220.0	3180.0
160	2268.0	2240.0	2430.0	2400.0	2592.0	2560.0	3240.0	3200.0
161	2282.0	2254.0	2445.0	2415.0	2608.0	2576.0	3260.0	3220.0